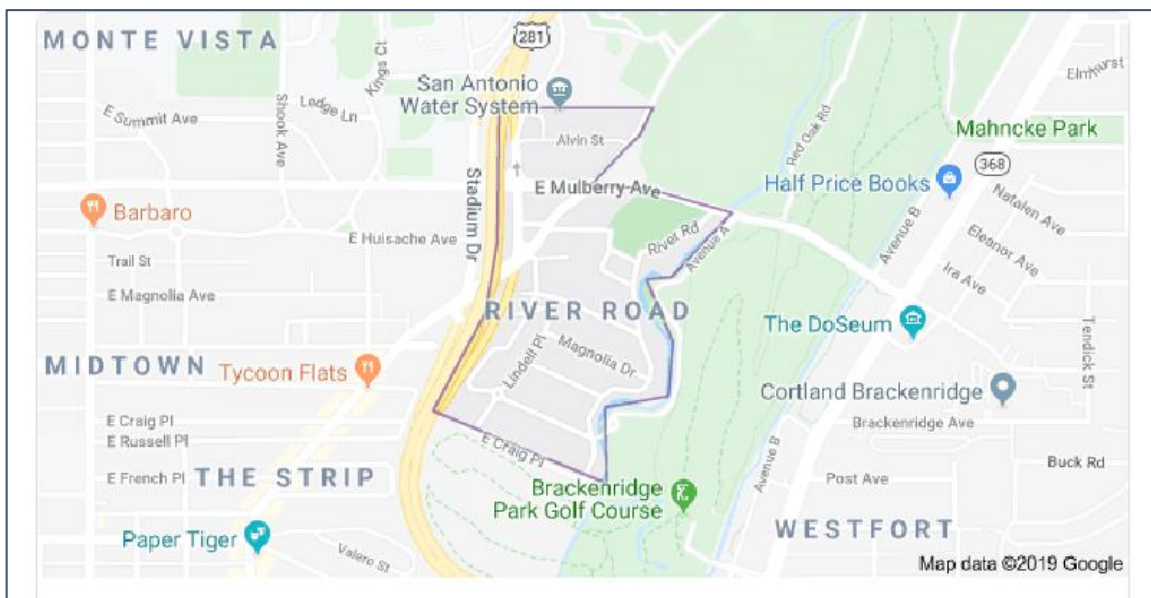


Noise Impact on River Road Neighborhood

January 2020

Relevant River Road Facts

- The River Road Historic District is comprised of **multiple plats dating from 1913 - 1950** on land grants from 1776.
- **Bordered on the west by US 281**, east by San Antonio River, and bordered on 3 sides by Brackenridge park.
- **Two Access streets from the neighborhood, Mulberry and N. St Mary's.** These streets serve the Park, US 281, Broadway, west and east neighborhoods and Trinity University.



281 is a scenic corridor and artery to downtown

River Road & 281: A Timeline

1913-1929 beginning – River Road neighborhood plats (initial land grants in 1776)

**1976 – RRNA Established
1977 – RRNA Incorporated by State of Texas**

February 7, 1978 - US 281 opens

1999 - RRNA plants trees in cooperation with TX Dot, Valero, and CoSA

February 4, 2010 - RR Historic District designation

Development Around River Road

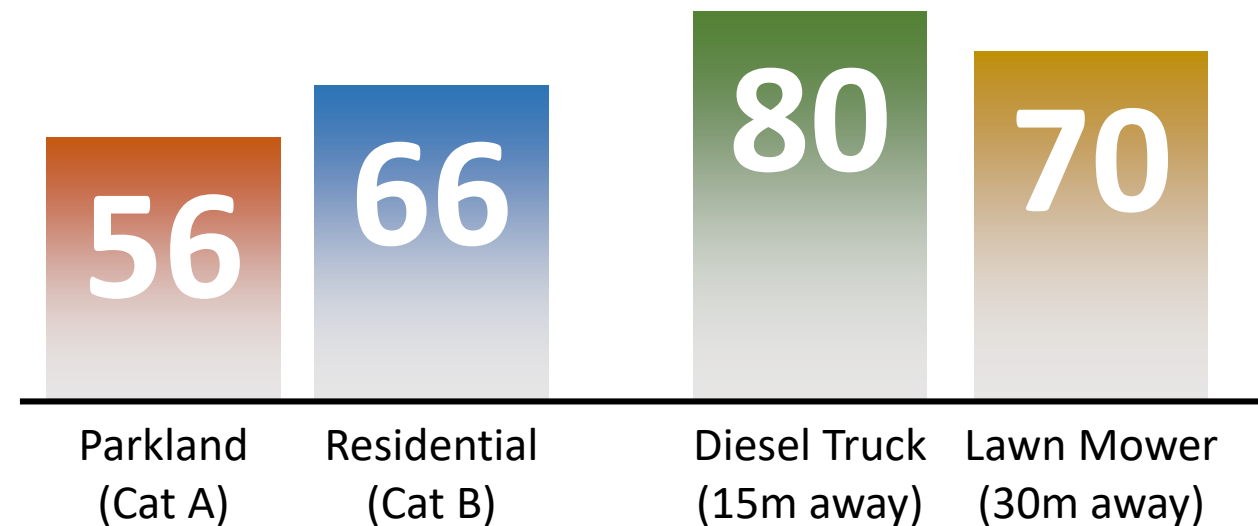
- San Antonio committed to programs encouraging development and residence proximate to downtown and midtown areas
- Increasing development around Pearl, St. Mary's strip, and Broadway corridor bring new residents, commuters, and recreation
 - Result of current and planned growth is more traffic
 - Trip volume around River Road Neighborhood has increased
 - Concerts from Sunken Garden Theatre
- As city and state remain committed to smart growth enabling high quality of life, opportunity exists to mitigate impact of highways on existing communities

Defining Noise

- Sound waves travel from the source and rebound when encountering obstacles (e.g., buildings, cars, pavement, etc.)
- Noise level amplified because the listener hears the original noise, plus all of the reflections; thus, combined impact is greater
- Texas A&M** study cites highway noise on "at grade" level freeways louder than elevated or depressed (note: US-281 included in study)

Exterior Noise Standards in Weighted Decibels [dB(A)]*

Comparative Noise [dB(A)]*



- dB(A) aligns with human ear sensitivity
- Used in TXDoT and FWHA definitions

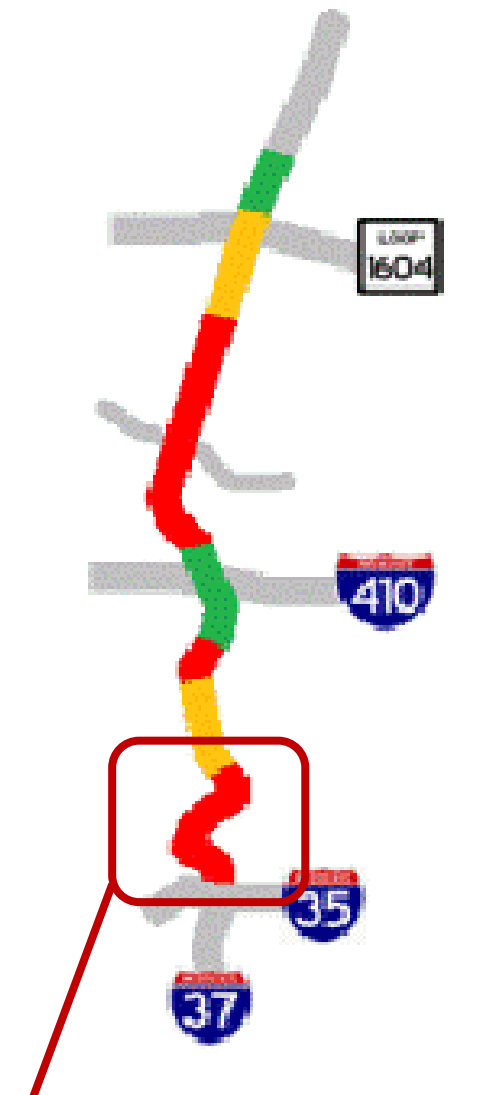
* Sources: Federal Highway Administration, TXDot)

** <https://static.tti.tamu.edu/tti.tamu.edu/documents/1327-3.pdf>

Impact of US-281 Increasing

- **Traffic volume has increased significantly over the last 10 years of data available.**
 - The section of highway nearest River Road has seen the largest increase in traffic volume (15.26% from 2007 – 2017). This equates to 169K cars per day.
 - Since 1990, the increase in the affected area has been 64%.
- **Speed limit in affected area: 60 MPH.**
 - 1995 – Control of speed limits transferred from Federal purview to state (55 MPH prior).

AVERAGE ANNUAL DAILY TRAFFIC							
LOCATION	1990	2006	2010	2015	2016	2017	'07-'17 % CHG
AFFECTED AREA – SEE INSET	103,000	147,000	138,000	154,145	165,216	169,425	15.26%
N of Basse Rd.	85,000	128,000	119,000	132,166	136,323	139,741	9.17%
Sunset Rd.	85,000	133,000	125,000	144,141	148,326	151,180	13.67%
S of Loop 410	54,000	102,000	81,000	88,203	92,476	90,915	-10.87%
N of Loop 410	51,000	118,000	77,000	93,957	98,021	98,735	-16.33%
Isom Rd.	59,000	130,000	128,000	161,941	166,447	153,221	17.86%
Nakoma Rd.	85,000	182,000	160,000	192,659	197,335	190,478	4.66%
Brookhollow Dr.	46,000	175,000	130,000	164,091	168,701	163,542	-6.55%
Henderson Pass	31,000	123,000	134,000	105,259	110,161	102,250	-16.87%
Sonterra Blvd.	24,000	112,000	133,000	103,023	107,942	97,657	-12.81



Affected Area: River Road Neighborhood

Damage of Road Noise and Vibration

Concerns and feedback from neighbors abound regarding the levels of noise from Hwy US-281 and the St. Mary's/Stadium off ramp, including traffic sounds and loud music from those idling at the red light.

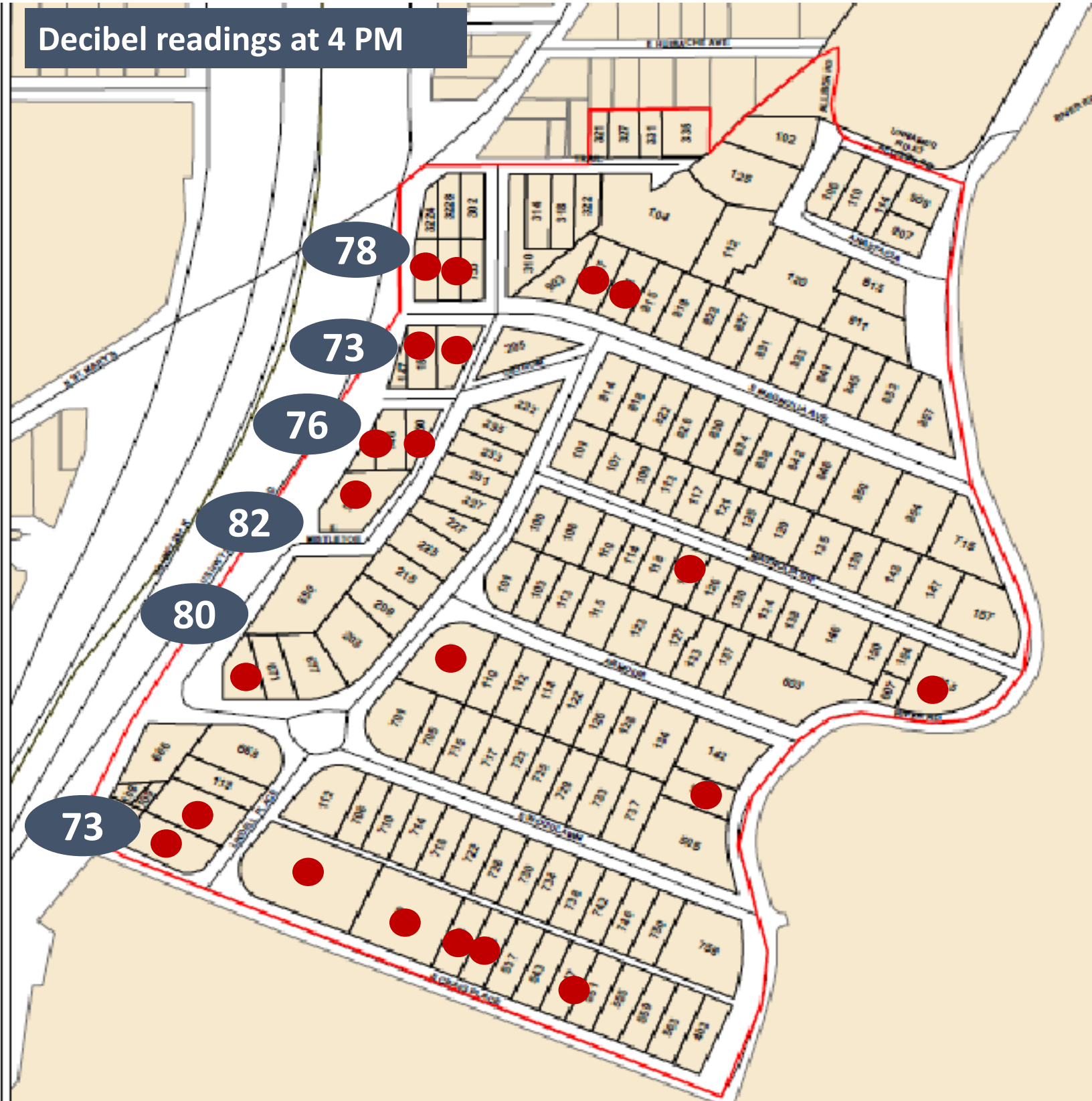
- **Quality of life and health impact**
 - Neighbors have measured as high as 82 decibels in their own backyards
 - Others report increased anxiety and awakening in middle of night due to traffic noise, loud radios, idling at lengthy red light
 - Use of air brakes as drivers navigate curves in highway
 - Peer-reviewed scientific journals link noise pollution with heart disease, mental health disorders, and hormonal changes*
- **Neighbors closest to the highway have reported reduced home valuation caused by road noise**
 - Realtors citing feedback to homeowners on noise levels reducing buyer interest (see Appendix)
 - Homeowners have found that noise levels and proximity to highway result in decreased property value
- **Significant investment by individual neighbors in neighborhood properties to mitigate noise**
 - Landscaping, insulation, mass loaded vinyl, reinforced windows
- **Destruction of prior city and neighborhood investments in noise abatement**
 - Trees installed in cooperation with local and state authorities
 - Existing green barrier affected by use of herbicide and physical removal of and damage to trees

*Journal of Sound and Vibration, 2006, <https://www.sciencedirect.com/science/article/abs/pii/S0022460X06000927>

* International journal of Environmental Research and Public Health, 2015, [10.3390/ijerph121012735](https://doi.org/10.3390/ijerph121012735)

* Medscape, 2007, https://pdfs.semanticscholar.org/4814/707e26cb13b6043acc45b76088a311b43a93.pdf?_ga=2.164893243.587982793.1573750125-1962201512.1573750125

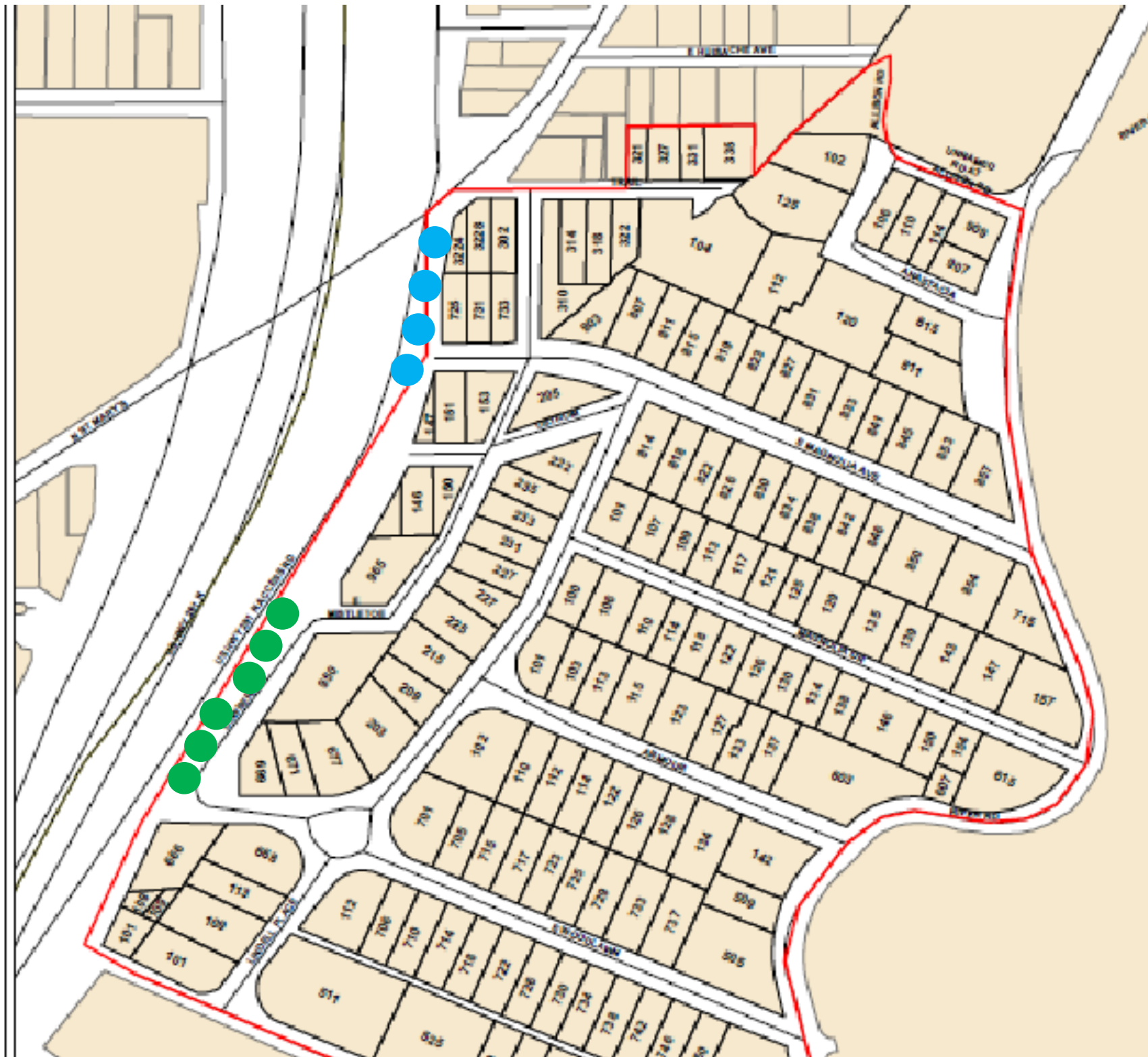
Noise Concerns & Feedback in River Road



● Red dots indicate noise concern or feedback from resident*.

*Data collection still in progress.

Damage to green barrier



- Green dots indicate damage to 15 trees from ~10/22/19 incident.
- Blue dots indicate long-term damage to previously thick green barrier from repeated use of pesticide and cutting.

Photos of Damage to Green Barrier - South

- On about 10/22/19, 15 trees were damaged in an attempt to access fence alongside E. Mistletoe Ave
- Tree damage located just south of fence

**Fence damaged, but easily
accessed from E. Mistletoe Ave**



**Damage to 15 Trees Previously Planted w/
Support of Local and State Government**



Photos of Damage to Green Barrier - North

- Over the last two years, with repeated spraying of pesticide and physical removal of plants, the area closest to St. Mary's is now completely open
- This was previously a very thick planting of bamboo donated by local neighbors, along with native trees



Our Asks

Short-Term

- Stop work on tree cutting to access fence
 - Obtain consensus from TXDOT and TCI on future maintenance of the fence/perimeter, with preservation of existing green barrier and replacement of damaged/removed green barrier
-

Mid-Term

- Conduct a noise study to quantify impact of US 281 on River Road
- Identify and consider a variety of solutions: green barrier in addition to walls of various materials, pylons along roadside on at-grade sections of highway, and decibel-dampening “quiet” pavement
 - Options to mitigate not only US 281 but also the off ramp at St. Mary’s
 - Of interest: TXDot project in Dallas resulting in Environmental Award in 2016, “Selection and Design of Quiet Pavement Surfaces 2016”
 - https://nzunigag.github.io/research/rep/2016_Noise.pdf
- Identify opportunities to partner to restore green barrier
- Adjust length of red light on St. Mary’s off ramp to limit impact of long idling and stereos

Appendix

Excerpt of San Antonio City Code on Noise

- **ARTICLE III. NOISE**
- **Sec. 21-52. Noise nuisance enumeration.**
- (a) The following acts, among others not hereinafter enumerated, are declared to be "noise nuisances," and are unlawful and in violation of the provisions of this division when such acts are done or accomplished or carried on in such a manner, or with such volume, intensity, or with continued duration, so as to annoy, to distress, or to disturb the quiet, comfort, or repose of any person of reasonable nervous sensibilities within the vicinity or hearing thereof, or so as to endanger or injure the safety or health of humans or animals, or so as to interfere with the physical well being of humans or animals, or so as to endanger or injure personal or real property:
- (4) The continued or frequent sounding of any horn or other signal device on any automobile or vehicle, motorcycle, bus or other vehicle, except as a danger signal.
- (5) The discharge into the open air of the exhaust of any steam engine, stationary internal combustion engine, automobile, motorcycle, or other motor vehicle or boat, except through a muffler or other device which prevents loud or explosive noises therefrom.
- (9) The making of noise which exceeds sixty-three (63) decibels on residential zoned property as defined by City Code Chapter 35 (Unified Development Code), when measured from property under separate ownership.

Reference: Noise Abatement Criteria

TxDOT Noise Study Information:

- **Purpose:** learn whether highway traffic sounds impact nearby outdoor areas frequently used by people.
- A noise study identifies land use activity areas that may be impacted by traffic noise, determines existing noise levels, predicts noise levels 20 years in the future, identifies possible impacts, and evaluates ways to reduce noise impacts

What is considered noise impact?

- TxDOT decides that an impact occurs when predicted noise levels are: 1 dBA below, equal to or above the criteria for a specific activity area.
- For example, an impact occurs at a Category B residence at 66 dBA or above, or more than 10 dBA higher than existing levels in any activity area.
- For example, an impact occurs at a Category B residence when the existing level is 54 dBA and the predicted level is 65 dBA—an 11 dBA increase.
- In either of the above situations, noise abatement is considered.

Source: <http://ftp.dot.state.tx.us/pub/txdot-info/env/toolkit/730-01-bro.pdf>

Additional Source: Federal Highway Noise Abatement Policy

(https://www.ecfr.gov/cgi-bin/text-idx?SID=15c1311bb0ebac774b86f24ea5aacd0f&node=23:1.0.1.8.44&rgn=div5#se23.1.772_13)

Noise Abatement Criteria			
Activity Category	FHWA (dB(A) Leq)	TxDOT (dB(A) Leq)	Description of Land Use Activity Areas
A	57 (exterior)	56 (exterior)	Lands on which serenity and quiet are of extra-ordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	66 (exterior)	Residential
C	67 (exterior)	66 (exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (interior)	51 (interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E	72 (exterior)	71 (exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F.
F	—	—	Agricultural, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	—	—	Undeveloped lands that are not permitted.
NOTE: Primary consideration is given to exterior areas (Category A, B, C, or E) where frequent human activity occurs. However, interior areas (Category D) are used if exterior areas are physically shielded from the roadway, or if there is little or no human activity in exterior areas adjacent to the roadway.			

Realtor Feedback on Property Adjacent to US 281

Feedback

Buyer's main objective to the house was the traffic noise. The house was staged nicely and showed well.

Feedback

Loved the neighborhood but not the traffic noise. Shows very well.

Feedback

She likes the house. Floors seem unlevel tho we did see the engineer report.

Traffic noise was an additional concern

Feedback

Unfortunately my clients decided not to go into the property after seeing the location. My clients thought the property was just too close to the highway. Thank you

Thank you for allowing me to show, but client felt too many updates were needed and the freeway noise was quite loud for her.

Realtor Feedback on Property Adjacent to US 281

Feedback

Buyers felt the highway noise was too loud and there was too much updating for them to do. Thank you!

Feedback

Quite a bit of noise from the highway. Overpriced due to location within neighborhood. The studio was somewhat odd, so very little value added for my client's needs. I would say this should be listed right around \$350K.

The 281 noise was too much. Home showed well. Thanks!

Feedback

very cute house but they didn't care for the highway noise.

Feedback

Cool house but the highway noise was too much for them

Feedback

Buyer did not like traffic noise.